

CLAIMS

1. A printing apparatus that is connected via a communication path with a print instructing apparatus which issues a print instruction to print print data and an external storage apparatus which has a storage space for temporarily storing the print data, said printing apparatus comprising:

a spool reservation request unit operable to issue, to the external storage apparatus, a request for reservation of a spool for temporarily storing the print data;

a spool reservation response receiving unit operable to receive, from the external storage apparatus, a response to the request issued by said spool reservation request unit;

a print instruction receiving unit operable to receive the print instruction issued by the print instructing apparatus;

a print data receiving unit operable to receive the print data sent from the spool, after the print instruction is received and the print data is stored in the spool in the external storage apparatus; and

a printing unit operable to print the received print data.

2. The printing apparatus according to Claim 1, wherein said spool reservation request unit is operable to issue, to the external storage apparatus, the request for reservation of the spool, after said print instruction receiving unit receives the print instruction.

3. The printing apparatus according to Claim 2, further comprising

a spool release request unit operable to issue, to the external storage apparatus, a request for release of the spool every time said printing unit has finished printing, the request requesting to release

the spool.

4. The printing apparatus according to Claim 1,
wherein said spool reservation request unit is operable to
5 issue the request to the external storage apparatus when said
printing apparatus is powered on.

5. The printing apparatus according to Claim 4, further
comprising

10 a spool release request unit operable to issue, to the external
storage apparatus, a request for release of the spool when said
printing apparatus is powered off.

6. The printing apparatus according to Claim 1,
15 wherein said spool reservation response receiving unit is
operable to receive spool information including information for
specifying a location of the spool as the response, from the external
storage apparatus,

said printing apparatus further comprises a spool location
20 notification unit operable to notify the location of the spool specified
by the spool information, to the print instructing apparatus, and
the print instructing apparatus is operable to output the print
data to the spool notified by the spool information.

25 7. The printing apparatus according to Claim 1, further
comprising

a print data save unit operable to receive the print data
outputted from the print instructing apparatus, and to request the
external storage apparatus to temporarily store the print data into
30 the spool.

8. The printing apparatus according to Claim 1,

wherein said print data receiving unit is operable to obtain the print data by issuing a request to the external storage apparatus, the request requesting to output the print data from the spool.

5 9. The printing apparatus according to Claim 8, further comprising

a spool monitor unit operable to monitor whether or not the print data is stored in the spool in the external storage apparatus,

10 wherein said print data receiving unit is operable to issue, to the external storage apparatus, the request to output the print data from the spool, when said spool monitor unit determines that the print data is stored in the spool in the external storage apparatus.

10. A printing method for use with a printing apparatus that is
15 connected via a communication path with a print instructing apparatus which issues a print instruction to print print data and an external storage apparatus which has a storage space for temporarily storing the print data, said method comprising the steps of:

20 issuing a request for reservation of a spool for temporarily storing the print data, to the external storage apparatus;

receiving a response to the request issued in said issuing, from the external storage apparatus;

25 receiving the print instruction issued by the print instructing apparatus;

receiving the print data sent from the spool, after the print instruction is received and the print data is stored in the spool in the external storage apparatus; and

printing the received print data.

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11. A program for use with a printing apparatus that is connected via a communication path with a print instructing apparatus which

issues a print instruction to print print data and an external storage apparatus which has a storage space for temporarily storing the print data, said program causing a computer to execute steps comprised in said printing method according to Claim 10.

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12. A printing method for use in a printing system including a print instructing apparatus, an external storage apparatus, and a printing apparatus which are connected via a communication path, said method comprising:

10 issuing the print instruction to print print data, from the print instructing apparatus to the printing apparatus;

 issuing a request for reservation of a spool for temporarily storing the print data, from the printing apparatus to the external storage apparatus;

15 notifying a location of the spool, from the external storage apparatus to the printing apparatus;

 notifying the location of the spool notified by the external storage apparatus, from the printing apparatus to the print instructing apparatus;

20 sending the print data based on the notified location of the spool, from the print instructing apparatus to the spool,; and

 sending the print data, from the spool to the printing apparatus; and

 printing the sent print data by the printing apparatus.

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13. The printing method according to Claim 12,

 wherein in said issuing of the request to reserve the spool, the request is issued to reserve the spool prior to said issuing of the print instruction.

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14. The printing method according to Claim 12, further comprising

releasing the spool by the external storage apparatus, when said printing is complete.

15. The printing method according to Claim 12,
5 wherein in said sending of the print data, the print data is sent from the print instructing apparatus to the spool via the printing apparatus.